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Claims

1. Sharpening or grinding device respectively for a clothing which is being provided with a number of single grinding elements which enter between the points of the clothing to be ground, brush over the head portions of the points and whereby these can be ground, characterised in that additional grinding elements are being provided in order to treat the front side of the head portions.

2. Sharpening or grinding device respectively for a hook-type clothing, characterised by a rotatable support with grinding elements (for instance bristles) for the treatment of the front side of the hooks.

3. Device according to claim 2, characterised in that the grind elements form a brush which rests on the clothing without substantially entering the mentioned grinding elements between the clothing points.

4. Sharpening or grinding device (204) respectively, for a clothing (14, 200) consisting of clothing elements (210), in particular clothing teeth or wires with a number of single flank grinding elements (201), between which enter the clothing elements (210) to be ground, that is for grinding the lateral surfaces of the clothing elements (210), characterised in that in addition to the flank grinding elements (201) front grinding elements (202) are being provided to treat the front side of the clothing elements (210).

5. Sharpening or grinding device (204) respectively, for a clothing (14, 200) consisting of clothing elements (210), in particular clothing teeth or wires with a number of single bristle-type grinding elements, characterised in that the bristle-type grinding elements are front side grinding elements (202) to essentially treat the front side of the clothing element (210), in particular to treat hooks.

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6. Device according to one of the claims 4 or 5, characterised in that the flank grinding elements (201) and the front grinding elements (202) are being arranged on a support.

7. Device according to claim 6, characterised in that the support is a rotatable roller (204).

8. Device according to claim 6 or 7, characterised in that seen in relation from the support, the front grinding elements (202) are of a smaller height than the flank grinding elements (201).

9. Device according to one of the preceding claims, characterised in that the clothing (14, 200) is being arranged in a revolving flat aggregate of a card (1).

10. Device according to one of the claims 1 to 9, characterised in that the flank grinding elements (201) and/or the front grinding elements (202) are bristles.

11. Device according to one of the claims 1 to 10, characterised in that the flank and/or front side grinding elements (202) form a brush, which rests on the clothing (14, 200) without substantially entering the mentioned grinding elements (201, 202) between the clothing points.

12. Device according to one of the claims 1 to 11, characterised in that the flank and/or front grinding elements (202) are grinding stones.

13. Device according to one of the claims 1 to 12, characterised in that the front grinding elements (202) are being provided with a finer graining than the flank grinding elements (201).

14. Device according to one of the claims 1 to 13, characterised in that the device comprises a means (220; 102, 104) to remove abrasion set free by the grinding.

15. Device according to claim 14, characterised in that said means (220; 102, 104) comprises a suction means (60).

16. Device according to claim 15, characterised in that the suction means (60) extends over the operating width of the clothing (14, 200) and is being arranged in relation to the grinding area (62) in such a way that an air stream (L) can be generated passing through the grinding area (62) or pass along the grinding area (62) respectively.

17. Device according to one of the claims 1 to 16, characterised in that means (220; 102, 104) are being provided in order to fasten the device onto the card frame, in order to grind or sharpen flat clothings (14, 200).

18. Device according to one of the claims 1 to 17, characterised in that the device is being provided with a control unit which engages the device into operation intermittently.

19. Device according to one of the claims 1 to 18, characterised in that the device is applicable as portable maintenance device , for the clothings (14, 200) of different machines.

20. Device for adjusting the engagement of a clothing (14, 200), with the clothing elements (210) being arranged on a clothing support (213), in relation to a sharpening or grinding device (204) respectively, with a number of single grinding elements, characterised in that a means (220; 102, 104) is being provided which effects a force between the clothing (14, 200) and the grinding device (204), so that the clothing (14, 200) and the grinding device (204) are pressed against each other and effect a predetermined entering depth of the clothing elements (210) into the grinding device (204).

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21. Device according to claim 20, characterised in that the force to be generated depends on the resisting force of the grinding element (201, 202) of the grinding device (204).

22. Device according to claim 20 or 21, characterised in that the force is adjustable.

23. Device according to one of the claims 20 to 22, characterised in that in the case differently long grinding elements (201, 202) the force is adjusted in such a way that the clothing elements (210) have contact with the shorter grinding elements (202).

24. Device according to one of the claims 20 to 23, characterised in that the force is adjusted in such a way that a condition of balance prevails between the clothing elements (210) and the grinding elements within the predetermined entering depth.

25. Device according to one of the claims 20 to 24, characterised in that the force is being exerted via the support surfaces (226) for the clothing support (213) onto the clothing support (213) and the clothing (14, 200) which clothing support (213) is being arranged on these support surfaces (226) during the grinding process.

26. Device according to one of the claims 20 to 25, characterised in that the force is being exerted via springs (223) or fluidic cylinders onto the clothing (14, 200).

27. Device according to one of the claims 20 to 26, characterised in that the support surfaces (226) are configured to be movable in the direction of the grinding device (204).

28. Device according to one of the claims 20 to 27, characterised in that the support surface (226) can be disengaged from the clothing support (213).

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29. Device according to one of the claims 20 to 28, characterised in that the support surfaces (226) are being provided with ramps (225).

30. A revolving flat aggregate for a revolving flat card, characterised in that a means is being provided to mark the position of the aggregate with respect to a predetermined reference position.

31. Aggregate according to claim 30, characterised in that a sensor is being provided in order to detect the mark and to generate a respective signal.

32. Aggregate according to claim 30 or 31, characterised in that a control unit is being provided in order to evaluate the signal and to control a maintenance programme accordingly.

33. Aggregate according to one of the claims 30 to 32, characterised in that one flat, if required however, a number of flats are being marked.

34. Aggregate according to claim 33, characterised in that not all flats are being marked, whereby a counter is being provided, in order to detect the other flats individually.

35. Aggregate according to claim 32, characterised in that the maintenance programme includes grinding.

36. Sharpening or grinding device respectively, for the clothings of the flats of a revolving flat aggregate, characterised by a control unit which is configured to define a grinding cycle whereat within one grinding cycle each flat is being ground preferably once.

37. Device according to claim 36, characterised in that the ground flats are being counted from the beginning of a cycle, whereby in case of a malfunction a "decision" is made by the control unit, whether the entire cycle is to be repeated

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or whether the (interrupted) sub-cycle can exceptionally be considered an entire cycle.

38. Device according to claim 36, characterised in that means are being provided in order to mark at least one position on the movable part of the revolving flat aggregate, so that the control unit, by means of a marks detecting device, is able to determine which of the flats had already been ground during an interrupted cycle.